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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/603,941      | 06/27/2000  | Zhenan Bao           | BAO 16-25-12        | 4437             |

28221 7590 09/02/2003

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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2815

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/603,941

Applicant(s)  
Bao et al.

Examiner  
George C. Eckert II

Art Unit  
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jun 11, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above, claim(s) 13-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Apr 25, 2002 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment dated June 11, 2003 in which claims 1, 3, 10, 12 and 19 were amended has been entered of record.

### *Election/Restriction*

2. Claims 13-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

### *Claim Rejections - 35 U.S.C. § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-4, 6-12 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2002/0136910 A1 to Hacker. With regard to claims 1, 3, 10, 12 and 19, Hacker teaches, with reference to paragraphs 0001, 0007 and 0083, the formation of transistors comprising a silsesquioxane dielectric layer above a substrate [para. 0007] wherein the silsesquioxane precursor

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is cured at a temperature of less than about 200° C and less than about 150° C (Hacker teaches in 0083 that the precursor may be cured at 100° C). With regard to claims 2 and 10, Hacker teaches in paragraph 0076 that the silsesquioxane precursor may comprise an alkyl(methyl) group. With regard to claims 2 and 4, because Hacker teaches the same structure and curing temperature for the final product as instantly claimed, it is considered inherent that the final dielectric will have a dielectric constant greater than 2. With regard to claims 6-9 and 11, these claims are directed to the process by which the product is formed. Note that a “product by process” claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw make clear. Instantly, these claims do not structurally differentiate over that taught by Carter et al. and as such are anticipated.

Regarding the limitations that a FET is formed on the substrate, Hacker teaches the formation of silsesquioxane to improve the characteristics of integrated circuits which inherently include transistors.

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***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hacker in view of Ferguson et al. Hacker taught the formation of silsesquioxane on a substrate but did not teach that the substrate was an indium-tin oxide (ITO) coated plastic substrate. Ferguson et al. teach the use of an ITO coated plastic substrate (col. 9, lines 3-9). Hacker and Ferguson et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a plastic substrate coated with ITO. The motivation for doing so is that a plastic substrate is more flexible than a conventional glass substrate and less prone to cracking. Therefore, it would have been obvious to combine Carter et al. with Ferguson et al. to obtain the invention of claim 5.

***Allowable Subject Matter***

5. The previous indication that claim 3 was objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form is withdrawn based on the teaching of Hacker as applied above.

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***Response to Arguments***

6. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new grounds of rejection.

***Conclusion***


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Biscotto et al. is cited for teaching curing a silsesquioxane precursor at a temperature of about 150° C (para. 0040).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Eckert II whose telephone number is (703) 305-2752.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Eddie Lee can be reached on (703) 308-1690. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

GCE  
August 25, 2003

  
**GEORGE ECKERT**  
**PRIMARY EXAMINER**